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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,134	12/30/2003	Angelo Magri'	02CT20753422	3843
27975	7590	11/17/2005		
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791				
			EXAMINER	
			MANDALA, VICTOR A	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/749,134	MAGRI' ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Victor A. Mandala Jr.	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-38 and 40-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-26, 38, 40 and 41 is/are rejected.
- 7) ☒ Claim(s) 27-37 and 42-50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/8/05</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24-26, 38, 40, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan Patent Office Publication No. 01005070 Abstract, Yamamoto.

1. Referring to claim 24, a method for forming a vertical-conduction and planar-structure MOS device having a double thickness gate oxide, (#6), the method comprising: forming spaced apart active areas in a semiconductor substrate and defining a JFET area, (#9-2, 8-2, 2, & 1), there between, the JFET area, (#9-2, 8-2, 2, & 1), also forming a channel, (area under #6), between the spaced apart active areas; forming a gate oxide, (#6), on the semiconductor substrate, (#1&2), and comprising forming a first portion having a first thickness, (area of #6 that is thinner), on the active areas and at a periphery of the JFET area, (#9-2, 8-2, 2, & 1), and forming a second portion having a second thickness, (area of #6 that is thicker), on a central area of the JFET area, (#9-2, 8-2, 2, & 1), the second thickness being greater than the first thickness and forming an enrichment region, (#5'), in the JFET area, (#9-2, 8-2, 2, & 1), under the second portion of the gate oxide, (area of #6 that is thicker).
2. Referring to claim 25, a method according to Claim 24, wherein the enrichment region is self-aligned with the second portion of the gate oxide, (area of #6 that is thicker).

3. Referring to claim 26, a method according to Claim 24, wherein an interface between the first, (area of #6 that is thinner), and second portions, (area of #6 that is thicker), of the gate oxide has a tapered thickness.
4. Referring to claim 38, a method for forming a semiconductor device comprising: forming spaced apart source, (#9-2), and drain areas, (#9-1), in a semiconductor substrate, (#1&2), and defining a JFET area, (#9-2, 8-2, 2, & 1), there between, the JFET area, (#9-2, 8-2, 2, & 1), also forming a channel, (area under #6), between the source, (#9-2), and drain areas, (#9-1); forming a gate oxide, (#6), on the semiconductor substrate, (#1&2), and comprising forming a first portion having a first thickness, (area of #6 that is thinner), on the , (#9-2), and drain areas, (#9-1), and at a periphery of the JFET area, (#9-2, 8-2, 2, & 1), forming a second portion having a second thickness, (area of #6 that is thicker), on a central area of the JFET area, (#9-2, 8-2, 2, & 1), the second thickness being greater than the first thickness, (area of #6 that is thinner), and forming an enrichment region, (5'), in the JFET area, (#9-2, 8-2, 2, & 1), under the second portion of the gate oxide, (area of #6 that is thicker).
5. Referring to claim 40, a method according to Claim 38, wherein the enrichment region, (5'), is self-aligned with the second portion of the gate oxide, (area of #6 that is thicker).
6. Referring to claim 41, a method according to Claim 38, wherein an interface between the first, (area of #6 that is thinner), and second portions of the gate oxide, (area of #6 that is thicker), has a tapered thickness.

*Allowable Subject Matter*

7. Claims 27-37 and 42-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 8/8/05 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor A. Mandala Jr. whose telephone number is (571) 272-1918. The examiner can normally be reached on Monday through Thursday from 8am till 6pm..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VAMJ  
11/08/05



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